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CONSTRUCTION OF A SLAB PHANTOM FOR BREAST DOSIMETRY

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PURPOSE:

The aim of this study is designing a slab phantom for breast dosimetry applications.

MATERIALS AND METHODS:

An anatomical slab phantom was designed with cork lung inhomogeneity and plexi colored heart part, also describes the different size of breast and chest wall phantom that have been designed and constructed for dosimetry. Three size different phantoms have been manufactured that installed in one trunk, as "small," "medium," and "large," two breast size fixed and one size was movable on a chest wall phantom. Two different dosimeters selected to dosimetry in this phantom, film was chosen for this dosimetry since it provides good spatial resolution and suitable for two dimensional dosimetry also measure dose distribution used a point dosimetry with thermoluminescent dosimeter (TLD).

RESULTS:

The results were shown near date due to either software or phantom calculation.

CONCLUSION:

Application include assessment dose in the junction region between the tangential fields and the supraclavicular fossa field, as well as assess dose in inhomogeneities, the phantom were formed from a variety of tissue substitute materials.

KEYWORDS: Breast phantom, dosimetry, Gafchromic film, thermoluminescent dosimeter